

A2.0 ENVIRONMENTAL SETTING - NATURAL CONDITIONS

A2.1 CLIMATE

The climate at Fort Irwin is "hot desert"¹. Fort Irwin, like all of the Mojave Desert, is arid. It has hot summers, relatively cool winters, low humidity and frequent strong southwesterly winds. Precipitation at Fort Irwin seldom exceeds four inches annually, averages 1.5 inches, and generally comes in December to February. Annual continuous periods of rainfall are one to two days, with a maximum 24-hour rainfall of 1.5 inches.

During the summer the area is influenced by hot, dry air of continental origin. During the winter season of the year, the air over Fort Irwin is either cool and dry of continental origin or cool and moist of marine origin. The air is hot in the summer, regularly reaching 110° to 120° F, and comparatively mild in the winter, but sometimes falls to 0° F. Daily temperature ranges are commonly 30° to 50° F throughout the year, especially in dry air. Temperature also varies with topography, generally decreasing with increases in elevation.

Weather is consistently clear with low humidity. Precipitation is light, infrequent and generally unpredictable. Occasionally there are showers and thunderstorms during the summer, which produce flash flooding, but these are rare.

During the winter, strong turbulent winds may occur. Gusty winds of 30 to 50 knots sometimes accompany frontal systems passing through the area. Local dust storms often accompany the strong winds.

Although some records of temperatures, precipitation, and winds have been made at the cantonment area and Bicycle Lake Air Field when the reservation was under Army command, these records are incomplete.

In lieu of on-site weather records, weather information for the China Lake Naval Weapons Center (NWC) and Barstow are presented here to give some indication of average weather conditions at Fort Irwin. Table A-1 presents a summary of weather records at the Naval Weapons Center, and Table A-2 presents temperature, precipitation and wind information for Barstow.

While data from China Lake Naval Weapons Center and Barstow are indicative of conditions at Fort Irwin, differences in elevation and situation relative to the Sierra Nevada and local topography suggest that conditions at Fort Irwin could be different from conditions at NWC or Barstow.

Table A-1. Climatic Summary

Naval Weapons Center, China Lake, California
(28-year period of record, 1946-1973)

Month	Average Temperature (degrees F)	Highest Temperature (degrees F)	Lowest Temperature (degrees F)	Average Precipitation (inches)	Maximum 24-Hour Precipitation (inches)	PREVAILING WIND		PEAK GUST	
						Direction	Hourly Average Speed (mph)	Direction	Velocity (mph)
January	43.0	77	0	0.44	0.91	SW	5.7	SW	77
February	49.0	83	14	0.47	1.28	SW	6.9	W	69
March	54.4	92	17	0.21	0.89	SW	9.1	W	81
April	62.3	98	28	0.15	0.88	SW	9.9	N	69
May	70.5	107	34	0.03	0.16	SW	9.9	SW	66
June	79.3	114	42	0.02	0.29	SW	9.1	SWS	68
July	86.2	116	52	0.12	0.87	SW	8.7	NW	66
August	84.4	112	50	0.10	0.75	SSW	8.4	ESE	53
September	77.1	110	39	0.21	0.94	SSW	7.3	W	60
October	65.5	102	21	0.09	0.58	SW	6.9	NW	66
November	52.4	88	18	0.50	1.03	SSW	5.7	SW	65
December	43.7	86	2	0.43	1.14	SW	5.3	SSW	71
TOTAL:				2.77					
AVERAGE:	64.0			0.23		SW	7.7	W	81
EXTREME:		116	0	0.50	1.28				

Source: J. R. Quimette, 1974, Survey and Evaluation of the Environmental Impact of Naval Weapons Center Activities, China Lake, California: Naval Weapons Center, Public Works Department.

Table A-2. Climatic Summary - Barstow, California, Elevation 2,160'

	Average Temperature (53-year record) (degrees F)	Average Precipitation (63-year record) (inches)
January	45.7	.63
February	50.3	.49
March	54.7	.52
April	62.0	.40
May	69.8	.04
June	77.5	.04
July	84.9	.32
August	83.0	.30
September	76.7	.24
October	65.7	.26
November	53.6	.48
December	46.1	.57
ANNUAL	64.2	4.13

Prevailing Wind Direction: West

Mean Hourly Speed: 7 mph

Source: U.S. Department of Commerce, NOAA. Climatological Data,
California Annual Summary 1975, Volume 79, No. 13.